16 VIDEO MEDIA OUTPUT

16.1 Purpose

To prepare the output for the results of video analysis, still printed image(s) and/or optical media.

16.2 Scope

This procedure applies to analog and digital video recordings, video streams and images after preliminary examination has been conducted. Certain inherent qualities of forensic video analysis prohibit the establishment of a rigid set of standard procedures to cover every case; therefore, enough latitude has been given to allow for independent thought and freedom in the selection of alternative courses of action as it applies to the analysis of the evidence.

16.3 Materials - Equipment (Hardware/Software)

The following equipment and materials may be utilized and is to at the discretion of the examiner:

- Video recorders/players (consumer, professional and/or security time lapse)
- Multiplexers
- Time-Base Correctors
- Cell phones
- Other images storage devices
- Computer hardware and software
- Audio/Video cables (BNC, XLR, RCA, etc.)
- Printers and appropriate output media
- RAID systems utilized for storage
- Bland media
- Professional headphones

16.4 Limitations

None for this procedure

16.5 Safety

None for this procedure

16.6 Procedures

16.6.1 The evidence will be received in accordance with the Department's evidence handling procedures (see Section 20 of the Quality Manual).

16.6.2 Any device to prevent overwriting or recording will be enabled if the evidence is the original recording or a duplicate. Any items removed will be retained and returned with the original submitted evidence.

16.6.3 If possible and if necessary, the examiner will determine if the evidence is the original recording or a duplicate. This can be determined by investigator's description or other provided information.

16.6.4 The examiner will determine, if possible, the model and settings (recording format and speed) used to produce the original recording. If not possible, visual inspection or electronic analysis will be used to determine which available video recorder/player can provide the best output signal. If an adequate output signal cannot be produced, the case investigator will be contacted and the submission of the original recording device requested.

16.6.5 The area of interest on the evidentiary recording will be located using the selected equipment. The area of interest will be noted by using the date/time stamp on the recording, the player counter information, or other identifying information. If the date/time stamp is not visible and the necessary decoding equipment is not available, a reasonable amount of recourses will be utilized in an attempt to locate the area of interest.

- Any action or equipment that may cause damage to the original recording is inappropriate and should not be utilized. Such actions may include, but are not limited to, maintaining the recording the "pause" mode for extended periods, unnecessarily repeated playback of the recording, or the proximity to strong magnetic fields.

16.6.6 The appropriate playback speed for the capture of the recording will be determined. A time-base corrector (TBC) may be used to stabilize the signal.

16.6.7 The area of interest will be captured in a video stream form with the use of frame grabber hardware and software selected at the examiner's discretion. Notes of settings and other appropriate information will be recorded in the case notes to allow for adjustment of the input signal. All captured files will be captured and stored in an uncompressed format or other lossless compression format using the case number as the file name.

16.7 References

Owner's Manuals, User's Manuals and appropriate software manuals should be referenced for equipment and operating instructions.

Ballou, Glen M., ed. Handbook for Sound Engineers the New Audio Cyclopedia. 2nd ed. Carmel, IN: SAMS, 1987.

Blitzer, Herbert L., and Jack Jacobia. Forensic Digital Imaging and Photography. San Diego: Academic Press, 2002.

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Inglis, Andrew F. and Arch C. Luther. Video Engineering. 2nd ed. New York: McGraw-Hill, 1996.

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Matchett, Alan R. CCTV for Security Professionals. Amsterdam: Butterworth – Heinemann, 2003.

Solari, Stephen J., Digital Video and Audio Compression. New York: McGraw-Hill, 1997.

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Watkinson, John. The Art of Digital Audio. 2nd ed. Oxford: Focal Press, 1994.

Whitaker, Jerry, and Blair Benson. Standard Handbook of Video and Television Engineering. 3rd ed. New York: McGraw-Hill, 2000.

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